



IN THE U.S. PATENT AND TRADEMARK OFFICE

Af / 2816
18

In re Application of

TI-15767A.1

Chauvel

Art Unit: **2816**

Serial No.: **09/606,057**

Examiner: **Tran**

Filed: **06/28/00**

For: **MULTIPLE PROCESSOR CELLULAR RADIO**

RECEIVED
SEP 27 2001
TC 2800 MAIL ROOM

RECEIVED
SEP 28 2001
TC 2800 MAIL ROOM

APPEAL BRIEF TRANSMITTAL FORM

RECEIVED

OCT 03 2001

Technology Center 2100

Assistant Commissioner for Patents

Washington, DC 20231

MAILING CERTIFICATE UNDER 37 C.F.R. § 1.8 (A)

I hereby certify that on this day this correspondence is being deposited with the US Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner For Patents, Washington, DC 20231.

Elizabeth Austin
Elizabeth Austin

9/21/2001
Date

Dear Sir:

Transmitted herewith in triplicate is an Appellant's Brief in the above-identified application.

Charge any additional fees, or credit overpayment to the deposit account of Texas

Instruments Incorporated, Account No. 20-0668. An original and two copies of this sheet

are enclosed.

10/04/2001 LKINARD 00000001 200668 09606057
01 FC:120

Respectfully submitted,

Ronald O. Neerings

Ronald O. Neerings
Attorney for Applicant
Registration No. 34,227

Texas Instruments Incorporated
P. O. Box 655474, M.S. 3999
Dallas, Texas 75265
(972) 917-5299

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Chauvel

Serial No.: **09/606,057**

Filed: **06/28/00**

For: **MULTIPLE PROCESSOR CELLULAR RADIO**



TI-15767A.1

Art Unit: **2816**

Examiner: **Tran**

RECEIVED
OCT 03 2001
Technology Center 2100

APPELLANTS' BRIEF

RECEIVED
SEP 27 2001
TC 2800 MAIL ROOM

Assistant Commissioner for Patents
Washington, D.C. 20231

MAILING CERTIFICATE UNDER 37 C.F.R. § 1.8(A)

I hereby certify that the above correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231.

Elizabeth Austin
Elizabeth Austin

9/21/2001
Date

Dear Sir:

In support of their appeal of the Final Rejection of claims in the above-referenced application, Appellant respectfully submits herein their Brief.

RECEIVED
SEP 23 2001
TC 2800 MAIL ROOM

I. REAL PARTY IN INTEREST

Texas Instruments Incorporated is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

An Appeal was filed in related application (08/890,894) on October 16, 2000.

III. STATUS OF CLAIMS

Claims 6-13 are pending. Claims 6-13 are on appeal. Claims 6-13 are reproduced in the Appendix to Appellants' Brief filed herewith.

IV. STATUS OF AMENDMENTS

All amendments have been entered.

V. SUMMARY OF THE INVENTION

The invention comprises a cellular radio (see fig. 2) comprising a first processor (5), a second processor (6) coupled to the first processor and a third processor (7) coupled to the first processor. In one embodiment of the invention, main processor (5) consists of a dedicated digital processor DSP. It effects both the management of the relevant application and the vocoder part. The protocol processing part is carried out by a dedicated processor (6)

adapted to bit processing. The modem part of the system which requires large computational power oriented towards vector processing is embodied in a dedicated processor (7) of the array processor type.

VI. ISSUE

Are Claims 6-13 patentable under 35 U.S.C. 102(e) over Claesson et al., A Multi-DSP Implementation of a Broad-band Adaptive Beamformer for Use in a Hands-free Mobile radio Telephone, pages 194-200, 02/1991?

VII. GROUPING OF CLAIMS

Claims 6-13 stand separately. The reasons for the allowability of each claim is argued separately in the body of the Appeal.

VIII. ARGUMENT

The Rejection

Claims 6-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Claesson et al., A Multi-DSP Implementation of a Broad-band Adaptive Beamformer for Use in Hands-free Mobile radio Telephone, pages 194-200, 02/1991, (hereinafter Claesson).

As per claim 6, Claesson teaches the invention as claimed, a cellular phone, comprising: a first processor (e.g., page 195, line 7 and et seq.); a second processor coupled to the first processor (e.g., page 195, line 7 and et seq.); a third processor coupled to the first processor (e.g., page 195, line 7 and et seq.).

As per claims 7, 10-11, and 13, Claesson teaches wherein the first processor is the main processor (e.g., page 195, line 27 and et seq.); wherein the second processor is a dedicated processor adapted to bit processing (e.g., page 195, line 12); wherein the third processor performs signal processing on vectors (e.g., page 197, line 6 and et seq.); and wherein three processors operate in parallel (e.g., page 196, col. 2, line 31 and et seq.)

As per claims 8-9 and 12, Claesson teaches the first processor performs management (e.g., page 195, line 27 and et seq.) and matrix computations (e.g., page 196, line 1 and et seq.). Claesson does not specifically teach the first processor for performing vocoder signal processing, the second processor for performing protocol processing, and the third processor being a dedicated processor of array processor type. "Official Notice" is taken that both the concept and advantages of having a processor for performing vocoder signal processing are well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the first processor for performing vocoder

signal processing because it would allow voice processing to be performed, thereby increase system functionality and performance. "Official Notice" is taken that both the concept and advantages of having a processor for performing protocol processing are well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the second processor for performing protocol processing because it would allow protocol processing to be performed, thereby increase system functionality and performance. "Official Notice" is taken that both the concept and advantages of having a processor being an array processor are well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the third processor being a dedicated array processor because it would allow parallel computations on large arrays, thereby increase system computation power.

APPELLANTS' ARGUMENT

Claims 6-13 stand rejected under 35 U.S.C. 102(e) as being anticipated by Claesson et al. Appellants respectfully traverse the above rejection.

35 U.S.C. 102(b) requires that a person shall be entitled to a patent unless the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent. Case law holds that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

Verdegaal Bros. v. Unior Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail as is contained in the ... claim."

Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent Claim 6 requires and positively cites, a **cellular radio**, comprising: "a first processor", "a second processor coupled to said first processor" and "a third processor coupled to said first processor".

In contrast to Appellants' cellular radio, the Claesson reference discloses the DSP900 which is a multiprocessor computer aimed for digital signal processing (DSP) in laboratory environments (page 195, col. 1, lines 7 & 8) - NOT a "cellular radio". The DSP900 system is enclosed in a 19-in standard frame DIN 41612 and has space for up to 8 complete subcomputer cards, a global memory, a PC-interface and up to 20 I/O-units, see Fig. 2 (page 195, col. 1, lines 8-11). There is no evidence whatsoever in Claesson that the DSP900 system is a cellular radio or has cellular radio functionality. Accordingly, the DSP900 is a multiprocessor computer having no cellular radio functionality - NOT a cellular radio. While Appellants may agree that Claesson discloses a five-microphone Griffiths-Jim array that Claesson discloses as being "intended for use in a hands-free mobile radio telephone" (page 201, col. 1, lines 12-14), Claesson fails to disclose the five-microphone Griffiths-Jim array in a cellular radio. Claesson similarly fails to disclose any cellular phone - let alone a cellular phone with three processors. As a result, Claesson fails to disclose "each and every element" of Claim 6. The 35 U.S.C. 102(e) rejection of Claim 6 is overcome.

Applicants further submit that it would not have been obvious for one having ordinary skill in the art at the time of Applicants' invention to have re-engineered the DSP900 which is a multiprocessor computer aimed for digital signal processing (DSP) in laboratory environments (page 195, col. 1, lines 7 & 8) that is enclosed in a 19-in standard frame DIN 41612 and has space for up to 8 complete subcomputer cards, a global memory, a PC-interface and up to 20 I/O-units, see Fig. 2 (page 195, col. 1, lines 8-11), to instead be a **cellular radio**, without the improper hindsight provided by Appellants' disclosure.

Claims 7-13 stand allowable as depending from allowable claims and including further limitations not taught or suggested by the references of record.

Claim 7 further defines the cellular radio of Claim 6, wherein said first processor is the main processor of the cellular radio. The Claesson reference fails to teach a cellular radio having three processors as required by Claim 6. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 6.

Claim 8 further defines the cellular radio of Claim 6, wherein said first processor performs management and vocoder signal processing. The Examiner admits that Claesson does not teach the first processor for performing vocoder signal processing (Office Action dated May 9, 2001, page 3, line 8). Accordingly, the Examiner's above statement is an admission that the 35 U.S.C. 102 rejection is improper since case law holds that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Unior Oil Co. of

California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Further, the Examiner's "Official Notice" that "both the concept and advantages of having a processor for performing vocoder signal processing are well known and expected in the art" (Office Action dated May 9, 2001, page 3, lines 10-12) does not overcome the fact that the Claesson reference does not itself provide such teaching. Further, the "Official Notice" statement by the Examiner cannot be applied to the present invention since the "Official Notice" argument is directed at the state of the art "today" - NOT at the time of Appellants' invention. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 8.

Claim 9 further defines the cellular radio of Claim 6, wherein said second processor performs protocol processing. The Examiner admits that Claesson does not teach the second processor for performing protocol processing (Office Action dated May 9, 2001, page 3, line 9). Accordingly, the Examiner's above statement is an admission that the 35 U.S.C. 102 rejection is improper since case law holds that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Unior Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Further, the Examiner's "Official Notice" that "both the concept and advantages of having a processor for performing protocol processing are well known and expected in the art" (Office Action dated May 9, 2001, page 3, lines 15-16) does not overcome the fact that the Claesson reference does not itself provide such teaching. Further, the "Official Notice" statement by the Examiner cannot be applied to the present invention since the "Official Notice" argument is directed at the state of the art "today" - NOT at the time of Appellants' invention. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 9.

Claim 10 further defines the cellular radio of Claim 9, wherein said second processor is a dedicated processor adapted to bit processing. The Claesson reference fails to teach a cellular radio having three processors as required by Claim 6. Further, Claesson fails to teach or suggest "a second processor is dedicated processor adapted to bit processing (e.g., page 195, line 12)", as suggested by the Examiner. Appellants have reviewed line 12 of both columns of page 195 and there is no such teaching. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 9.

Claim 11 further defines the cellular radio of Claim 6, wherein said third processor performs signal processing on vectors. The Claesson reference fails to teach a cellular radio having three processors as required by Claim 6. Further, Claesson fails to teach or suggest "the third processor performs signal processing on vectors (e.g., page 197, line 6 and et seq.)", as suggested by the Examiner. Appellants have reviewed line 6 of both columns of page 197

and there is no such teaching. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 6.

Claim 12 further defines the cellular radio of Claim 11, wherein said third processor is a dedicated processor of the array processor type. The Claesson reference fails to teach a cellular radio having three processors as required by Claim 6. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 11.

Claim 13 further defines the cellular radio of Claim 6, wherein said first, second and third processors operate in parallel. The Examiner admits that Claesson does not teach the third processor being a dedicated processor of array processor type (Office Action dated May 9, 2001, page 3, lines 9-10). Accordingly, the Examiner's above statement is an admission that the 35 U.S.C. 102 rejection is improper since case law holds that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Unior Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Further, the Examiner's "Official Notice" that "both the concept and advantages of having a processor being an array processor are well known and expected in the art" (Office Action dated May 9, 2001, page 3, line 20 - page 4, line 1) does not overcome the fact that the Claesson reference does not itself provide such teaching. Further, the "Official Notice"

statement by the Examiner cannot be applied to the present invention since the "Official Notice" argument is directed at the state of the art "today" - NOT at the time of Appellants' invention. Accordingly, Claesson fails to teach or suggest this further limitation in combination with the requirements of Claim 12.

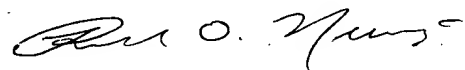
Appellants further respectfully point out that the Examiner's "obviousness" arguments in the Office Action dated May 9, 2001 (page 3, lines 12-19 & page 4, lines 1-4) are improper since there is no "obviousness" rejection in the present appeal. Assuming, arguendo, that this Board determines such arguments to be proper, Appellants respectfully point out that in proceedings before the Patent and Trademark Office, "the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art". In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (citing In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). "The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references", In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)(citing In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)(citing In re Lalu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)). The Examiner in the present case has not met this burden.

Even if the cited art discloses components of the device in issue, case law holds that it is insufficient that the prior art discloses the components of the device in issue, either separately or used in other combination; there must be some teaching, suggestion, or

incentive to make the combination made by the inventor. Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990). Moreover, "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Although couched in terms of combining teachings found in the prior art, the same inquiry must be carried out in the context of a purported obvious "modification" of the prior art. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Laskowski, 871 F.2d 115, 10 USPQ2d 1397 (Fed. Cir. 1989); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

For the above reasons, favorable consideration of the appeal of the Final Rejection in the above-referenced application, and its reversal, are respectfully requested.

Respectfully submitted,



Ronald O. Neerings
Reg. No. 34,227
Attorney for Appellant

TEXAS INSTRUMENTS INCORPORATED
P.O. BOX 655474, M/S 3999
Dallas, Texas 75265
Phone: 972/917-5299
Fax: 972/917-4418

APPENDIX

Claims on Appeal:

6. A cellular radio, comprising:
a first processor;
a second processor coupled to said first processor; and
a third processor coupled to said first processor.
7. The cellular radio of Claim 6, wherein said first processor is the main processor of the cellular radio.
8. The cellular radio of Claim 6, wherein said first processor performs management and vocoder signal processing.
9. The cellular radio of Claim 6, wherein said second processor performs protocol processing.
10. The cellular radio of Claim 9, wherein said second processor is a dedicated processor adapted to bit processing.
11. The cellular radio of Claim 6, wherein said third processor performs signal processing on vectors.
12. The cellular radio of Claim 11, wherein said third processor is a dedicated processor of the array processor type.
13. The cellular radio of Claim 6, wherein said first, second and third processors operate in parallel.